



Cooperative Agricultural Pest Survey

A Program to Detect Plant Pests And Diseases of Regulatory Concern

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Large Pine Weevil
Hylobius abietis



Black Fir Sawyer Beetle
Monochamus urossovii



Japanese pine sawyer beetle
Monochamus alternatus



Common pine shoot beetle
Tomicus destruens



Megaplatypus mutatus

Exotic Wood Boring Beetle Survey

Bark and Ambrosia Beetles (Curculionidae: Scolytinae, Platypodinae),
Longhorn Beetles (Cerambycidae), and Jewel Beetles (Buprestidae)

EWBB



- ❑ Florida's forest industry: >\$16.5 billion, >133,000 jobs
- ❑ Plus: parks, preserves, residential and street trees

Florida is a major trade hub and receives material by rail, sea and air from all over the world, putting it at a high risk for the introduction and establishment of exotic wood boring insects.

EWBB



❑ Survey and monitor **high risk areas** that pose the greatest risk of introduction and establishment of exotic wood boring insects via infested wood packing materials.

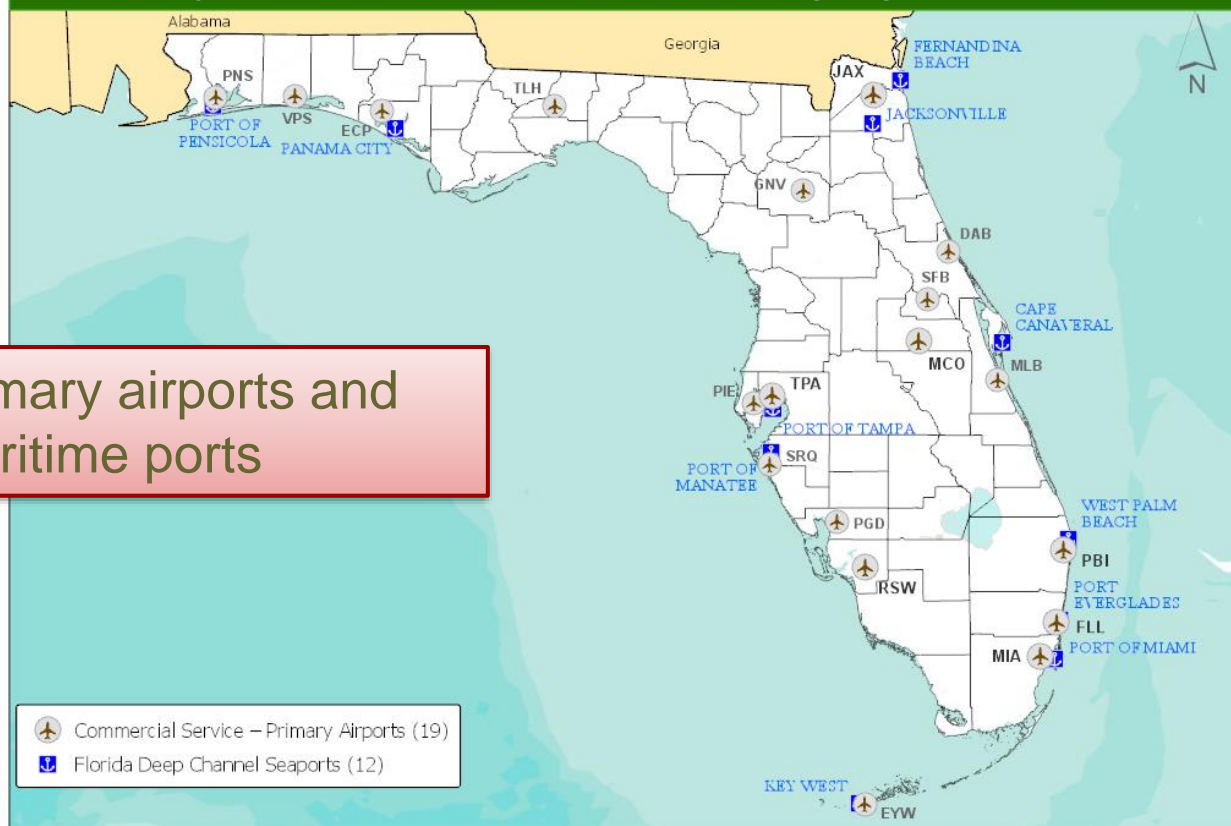
- ❑ Campgrounds
- ❑ Natural areas
- ❑ Green areas around ports
- ❑ Disturbed areas (natural disasters)

EWBB



Seaports and Commercial Service - Primary Airports In Florida

19 primary airports and
12 maritime ports



FDACS, DPI, CAPS
G. Gardner, L. Wilby, B. Danner
Map for illustrative purposes only



Coordinate System: GCS WGS 1984
Datum: WGS 1984
Data Source: CAPS
Date: 3/6/2019

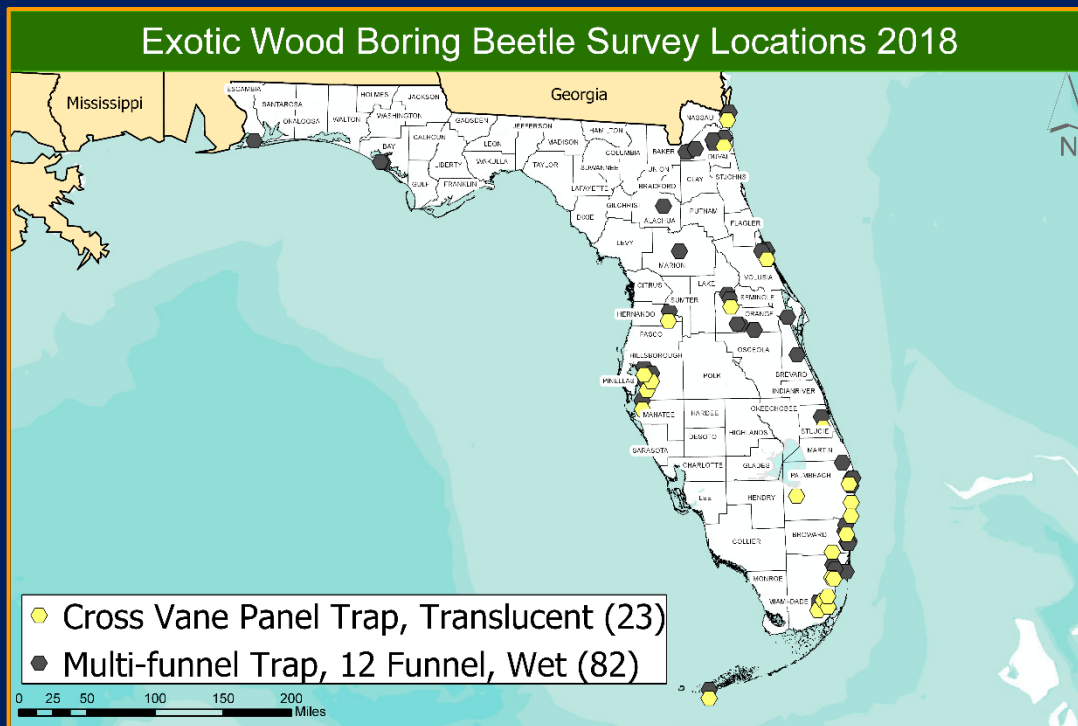
EWBB



82 Lindgren multi-funnel traps throughout the state and 23 cross vane panel traps

4 Lure types:

- EtOH
- AP+EtOH
- AP+EtOH+Monochamol
- Sulcatone, Sulcatol, 3-Pentanol



EWBB-Targets 2018 Results



No pests from the CAPS target list have been detected; however:

❑ 105 traps

❑ 1,012 samples were processed

❑ Buprestidae:

❑ *Chrysobothris acutipennis*

❑ Ectobiidae:

❑ *Pseudomops septentrionalis*

❑ Laemophloeidae:

❑ *Passandrophloeus* sp. (2 counties)

❑ Margarodidae:

❑ *Matsucoccus gallicolus* (4 counties)

❑ *Matsucoccus alabamae* (2 counties)

❑ Scolytinae:

❑ *Ambrosiodmus minor* (3 counties)

❑ *Hylesinus aculeatus*

❑ *Cnestus mutilates*

County records —15



Emerald Ash Borer (EAB)

Agrilus planipennis

Emerald Ash Borer



- ❑ Arrived from Asia in packing wood material in 1990
- ❑ 2002 identified as cause of ash mortality in Michigan and Ontario
- ❑ Epicormic growth

EAB



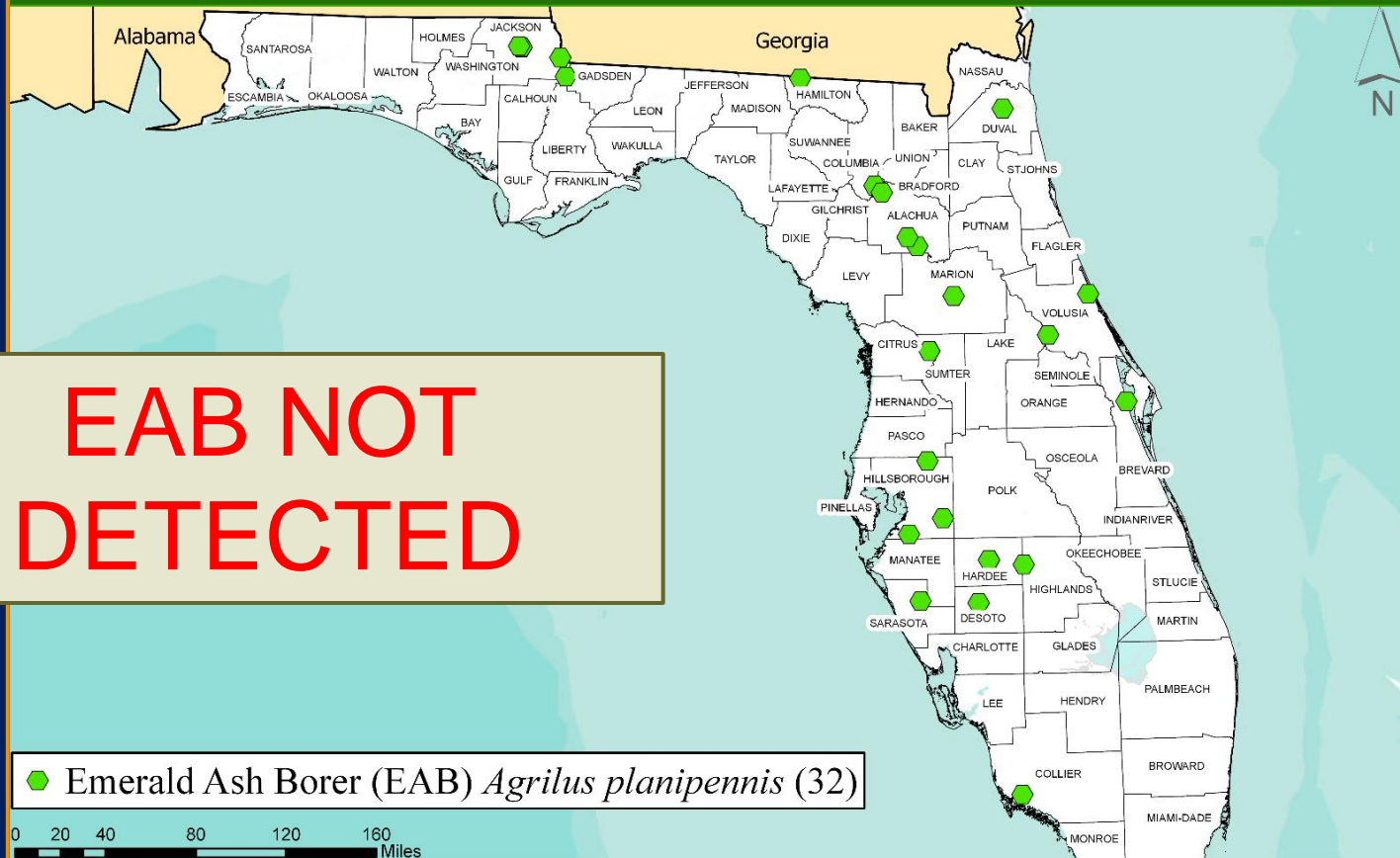
- ❑ Feb - Aug
- ❑ State parks, state forests, federal camp sites, private camp sites, highway rest areas
- ❑ Green Lindgren funnel traps
- ❑ EAB Lure:
z-3-hexen-1-ol



EAB 2018 Results



Exotic Wood Boring Beetle Survey Locations 2018



EAB 2018 Results



No pests from the CAPS EAB target list have been detected; however:

- ❑ 32 GLFT traps
- ❑ 115 samples were processed

- ❑ Anobiidae:

- ❑ *Trichodesma klagesi*

- ❑ Monotomidae:

- ❑ *Thione championi*

- ❑ Scolytinae:

- ❑ *Hylesinus aculeatus*

State Record—1

County Record—2



Asian Longhorned Beetle (ALB)

Anoplophora glabripennis

ALB



<http://www.ars.usda.gov/IS/AR/archive/may06/beetle0506.htm>

Adult Beetle

Pupa

Michael Bohne, Bugwood.org

- ❑ First U.S. detection in New York in 1996; most recently found in California (2011) in general cargo. Origin: China.
- ❑ Native to China and Korea; probably introduced via wood packing materials made from poplar.
- ❑ Maples, birches and elms are susceptible to attack by ALB.
- ❑ Populations may go unnoticed for years before detection.



Citrus Longhorned Beetle (CLB)

Anoplophora chinensis

CLB

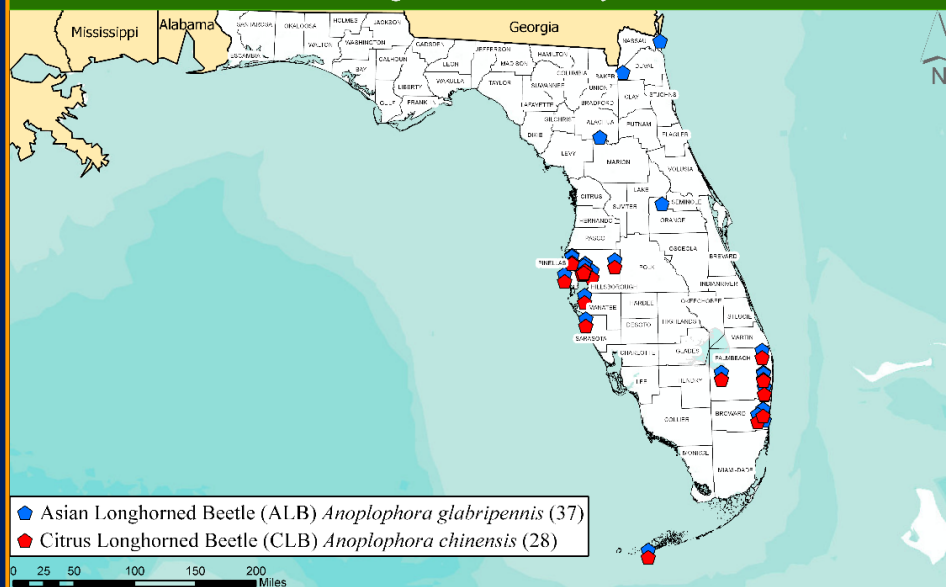


- ❑ CLB is native to Asia (Japan, Korea and China).
- ❑ In **1999**, intercepted on crape myrtle bonsai shipped from China to Athens (GA) nursery.
- ❑ Last interception in California (**2018**) from an airport. Origin: Hong Kong.
- ❑ Hosts:
 - ❑ **Citrus, poplars, Australian pine, willows, apple, etc.**

ALB/CLB



Exotic Wood Boring Beetle Survey Locations 2018



Counties:

- Alachua(1), Broward(2), Duval(1), Hillsborough(13), Manatee(1), Monroe(1), Nassau(1), Orange(1), Palm Beach(7), Pinellas(3), Sarasota(1)

Hosts:

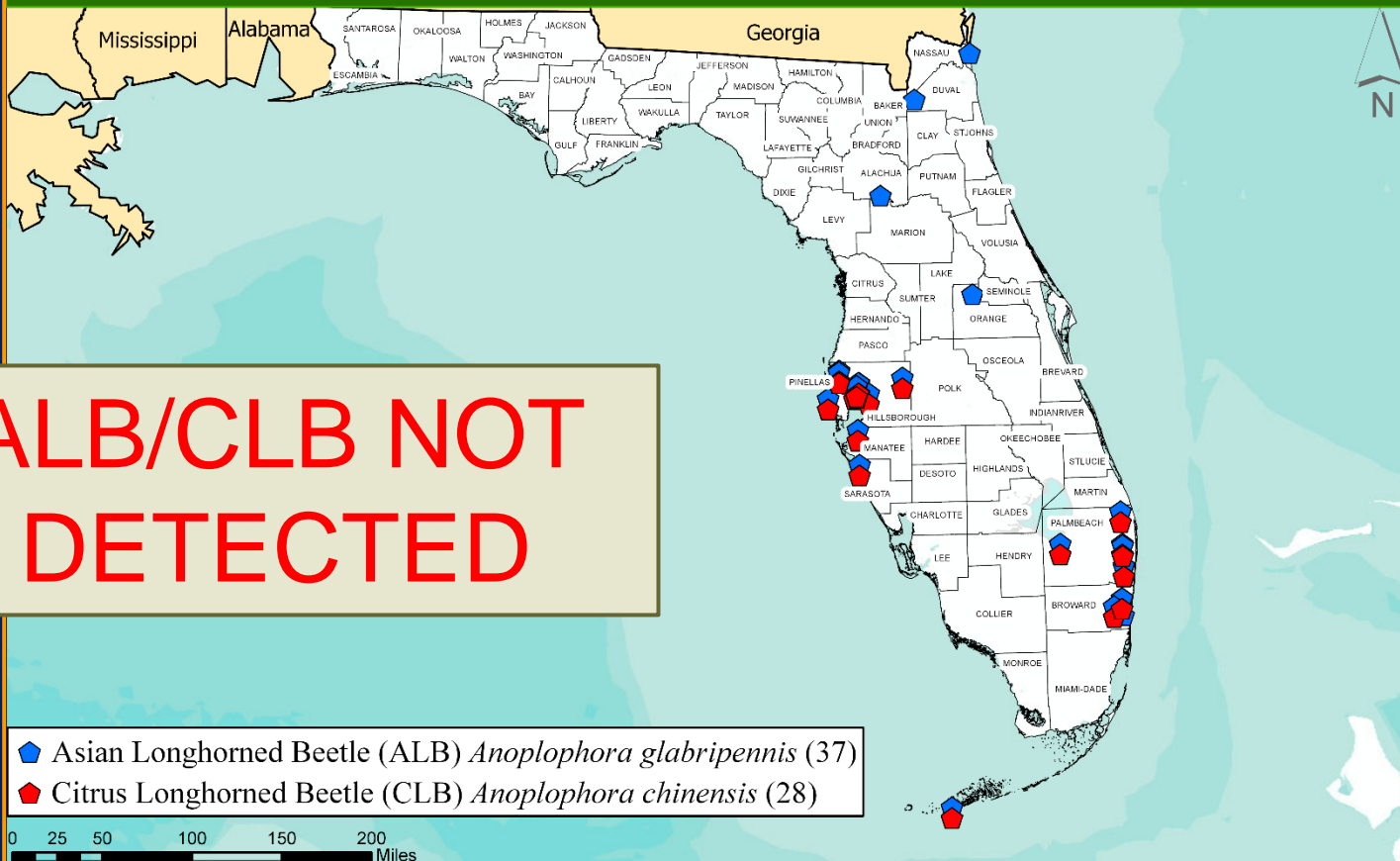
- Acer* spp., *Acer rubra* (Maple), *Acer rubrum* (Red maple), *Ulmus Americana* (American elm), *Ulmus parvifolia* (Chinese elm), and *Salix* sp. (Willow)

ALB/CLB 2018 Results



Exotic Wood Boring Beetle Survey Locations 2018

**ALB/CLB NOT
DETECTED**





EWBB 2019 Plans

☐ Pest list 2018:

- ☐ *Agilus planipennis*
- ☐ *Anoplophora glabripennis*
- ☐ *Anoplophora chinensis*
- ☐ *Hylobius abietis*
- ☐ *Tomicus destruens*
- ☐ *Megaplatypus mutatus*
- ☐ *Monochamus alternatus*
- ☐ *Monochamus urossovii*

☐ Removed:

- ☐ *Megaplatypus mutatus*

☐ Added (for 2019):

- ☐ *Platypus quercivorus*
- ☐ Visual: *Lycorma delicatula*



Ips typographus
European spruce bark beetle



Ips sexdentatus
Six-spined engraver beetle



Orthotomicus erosus
Mediterranean pine engraver beetle



Tomiscus minor
Lesser pine shoot beetle

Early Detection and Rapid Response (EDRR)





What is EDRR?

Early Detection and Rapid Response is a cooperative program between the Florida Forest Service, U.S. Forest Service, and APHIS, university and state representatives.

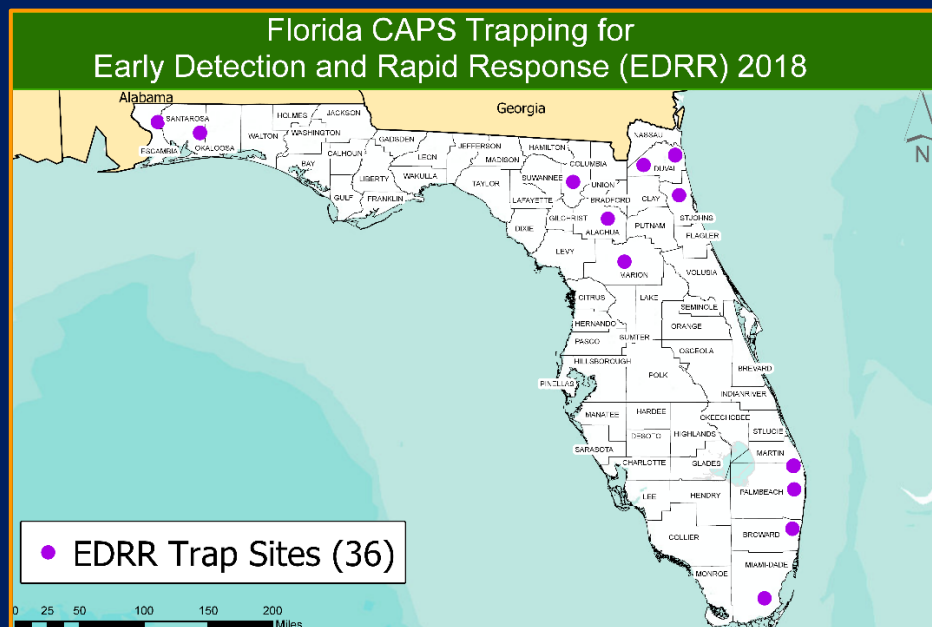
Goals:

- ❑ Detect, delimit and monitor newly introduced exotic bark and ambrosia beetles at selected high-risk forest areas.
- ❑ Quickly assess and respond to newly detected infestations.

EDRR



- 12 wooded sites near high risk areas, each with 3 traps
- March – July



- 36 Lindgren funnel traps in 10 counties (Alachua, Broward, Columbia, Escambia, Marion, Duval, Miami-Dade, Palm Beach, Santa Rosa, St. Johns)
- Lures
 - Ips tri-lure
 - Ethanol
 - Ethanol and Alpha-pinene
- Checked every 2 weeks, 6 collections total



EDRR 2018 Results

- ❑ 216 samples submitted
- ❑ 9,719 scolytines identified by Dr. Anthony Cognato of Michigan State University

- ❑ Scolytinae:

- ❑ *Ambrosiodmus minor* (4 counties)
- ❑ *Cnestus mutilatus* (2 counties)
- ❑ *Euwallacea interjectus*
- ❑ *Xyleborinus andrewesi*
- ❑ *Xylosandrus amputatus*
- ❑ *Theoborus ricini*
- ❑ *Dendroctonus frontalis*

County Record—11



Cooperative Agricultural Pest Survey



What are your thoughts?

What other pests use these pathways?

Are there resources not being utilized?

How do we improve?

Thank You!

